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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/799,758	FUNAKAWA ET AL.
	Examiner	Art Unit	
	MARCUS T. RILEY	2625	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>18 December 2008</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-20</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>15 March 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some *   c) ☐ None of:

    1. ☒ Certified copies of the priority documents have been received.

    2. ☐ Certified copies of the priority documents have been received in Application No. _____.

    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date <u>03/15/2004; 10/31/2005; 01/18/2008</u>.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on December 18, 2008 has been entered.

Response to Amendment

2.   This office action is responsive to applicant's remarks received on December 18, 2008.

Claims 1-18 remain pending and newly added **claims 19 & 20** are also pending.

Response to Arguments

3.   Applicant's arguments with respect to amended **claims 1, 17 & 18** and newly added

claim 19 &20, filed on December 18, 2008 have been fully considered but they are not

persuasive.

A: Applicant's Remarks

For Applicant's remarks, see *"Applicant Arguments/Remarks Made in an Amendment"*

filed December 18, 2008.

A: Examiner's Response

Independent claim 1 is amended to recite that the acquired data image is transmitted to the external apparatus "so that the image data is stored in the storage apparatus [of the external apparatus] while the storage unit [of the image processing apparatus also] stores the acquired image data." Similar language has been included in independent claims 17 and 18.

Ueda '764 either alone or in combination with Kajita '706, Iwazaki '742 or Ogura '136 teaches, discloses or suggests where acquired data image is transmitted to the external apparatus "so that the image data is stored in the storage apparatus [of the external apparatus] while the storage unit [of the image processing apparatus also] stores the acquired image data." See Fig. 1 where Fig. 1 shows a Printer 2500, Host Computer 1500 where each has an external memory used to store information.

As a result, Applicant's application as amended does not further distinguishing all independent claims and the claims dependent therefrom over the art of record. Thus, Applicant's arguments with respect to amended **claims 1, 17 &18** have been fully considered but they are not persuasive.

Accordingly, Applicant's application is not in condition for allowance.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim 18 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. **Claim 18** defines a *"program that is run in an image processing apparatus"* embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed *"program"* can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on *"computer-readable medium"* or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   **Claims 1-7, 10-15 & 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ueda (US 6,538,764 B2, hereinafter Ueda '764) in combination with Kajita et al. (US

6,069,706, hereinafter Kajita '706).

   Regarding claim 1; Ueda '764 discloses an image processing apparatus for transmitting

and receiving data to/from an external apparatus that has a storage apparatus, the image

processing apparatus comprising (See Fig. 1 where Fig. 1 shows an Printer 2500, Host Computer 1500 where each has

an external memory used to store information.):

   a first data acquiring unit that acquires image data to be subjected to image processing

*("...**data processing means for acquiring information concerning image data** development area size allocated in the memory*

resource of the printing apparatus..." column 3, lines 40-45);

   a storage unit that stores the acquired image data *("...first **storage means for storing, in a first storage***

*****area of a memory resource,** the intermediate code information obtained through conversion performed by the first conversion*

means..." column 10, lines 51-54);

   a judgment unit that judges, prior to commencement of the image processing, whether the

image data is stored in the storage unit *("...**first judging means for judging whether or not the intermediate code***

*****information corresponding to one page has been stored in the first storage area;** and first memory control means operative*

*based on the **result of judgment conducted by the first judging means** so as to cause the second conversion means to convert the*

intermediate code information stored in the first storage area on the predetermined band basis into image and to develop the
image in the second storage area ... " column 3, lines 51-60);

a second data acquiring unit that acquires the image data from the external apparatus if
the judgment unit judges negatively (*"...second memory control means operative after the preservation of the*
vacant area by the first memory control means and operative based on the result of the judgment performed by the first
judging means, so as to cause the second conversion means to convert into image the intermediate code information of a band
which does not contain image data from among the bands of intermediate code information stored in the first storage area, and
to develop the image into the second storage area ... " column 3, lines 63-67 thru column 4, lines 1-4);

and an image processing unit that executes the image processing using the image data
stored in the storage unit if the judgment unit judges positively, and executes the image
processing using the image data acquired by the second data acquiring unit if the judgment unit
judges negatively (*"...first conversion means for converting page-basis printing information received from the*
information processing apparatus into predetermined intermediate code information, the conversion being executed on a
predetermined band basis; first storage means for storing, in a first storage area of a memory resource, the intermediate code
information obtained through conversion performed by the first conversion means; second conversion means for converting the
intermediate code information into image data on a predetermined band basis; second storage means for storing, in a second
storage area of the memory resource, a plurality of bands of the image data obtained through conversion performed by the
second conversion means; first judging means for judging whether or not the intermediate code information corresponding to
one page has been stored in the first storage area; and first memory control means operative based on the result of judgment
conducted by the first judging means so as to cause the second conversion means to convert the intermediate code information
stored in the first storage area on the predetermined band basis into image and to develop the image in the second storage area,
thereby forming a vacant area in the first storage area. " column 3, lines 38-59).

Ueda '764 does not expressly disclose a transmission unit that transmits the acquired
image data to the external apparatus so that the transmitted image data is stored in the storage
apparatus thereof while the storage unit stores the acquired image data.

Kajita '706 discloses a transmission unit that transmits the acquired image data to the external apparatus so that the transmitted image data is stored in the storage apparatus thereof while the storage unit stores the acquired image data (*"In case the copying apparatus 1 is used as a remote scanner, the original placed on the unrepresented original table is scanned with the scanner unit 12 to obtain electrical signals, which are transmitted through the selector 13, and subjected to various digital image processes in the image process unit 14, and thus processed image data 16 are stored as a raster image in the image memory 9. Then the image data, read from the image memory 9, are supplied through the CPU 8 and the external communication circuit 4 and transmitted for example to the computer 2A under the control of the control unit 5."* column 5, lines 1-11).

Ueda '764 and Kajita '706 are combinable because they are from same field of endeavor of an image processing apparatus (*"The present invention relates to an image reading device for reading an image and sending image data to an externally connected host computer or the like, and an image processing method utilizing such device"* Kajita '706 at column 1, lines 8-11).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image processing apparatus as taught by Ueda '764 by adding a transmission unit that transmits the acquired image data to the external apparatus so that the transmitted image data is stored in the storage apparatus thereof while the storage unit stores the acquired image data as taught by Kajita '706. The motivation for doing so would have been because it advantageous to provide an image reading device with improved operation characteristics (*"...to provide an image reading device with improved operation characteristics."* Kajita '706 at column 2, lines 25-27).Therefore, it would have been obvious to combine Ueda '764 with Kajita '706 to obtain the invention as specified in claim 1.

Regarding claim 2; Ueda '764 as modified does not expressly disclose a deletion instructing unit that, after the image processing is completed, sends to the external apparatus an instruction to delete the image data from the storage apparatus.

Kajita '706 discloses a deletion instructing unit that, after the image processing is completed, sends to the external apparatus an instruction to delete the image data from the storage apparatus (*"**Then a step S34 deletes the print request**, for which the printing operation has been completed, from the reception list and **also deletes the print data on the hard disk 7.**"* column 11, lines 1-4).

Ueda '764 and Kajita '706 are combinable because they are from same field of endeavor of an image processing apparatus (*"The present invention relates to an image reading device for reading an image and sending image data to an externally connected host computer or the like, and an image processing method utilizing such device"* Kajita '706 at column 1, lines 8-11).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image processing apparatus as taught by Ueda '764 by adding a deletion instructing unit that, after the image processing is completed, sends to the external apparatus an instruction to delete the image data from the storage apparatus as taught by Kajita '706. The motivation for doing so would have been because it advantageous to provide an image reading device with improved operation characteristics (*"...to provide an image reading device with improved operation characteristics."* Kajita '706 at column 2, lines 25-27). Therefore, it would have been obvious to combine Ueda '764 and Kajita '706 to obtain the invention as specified in claim 1.

Regarding claim 3; Ueda '764 discloses where the transmission unit transmits the acquired image data page by page to the external apparatus (*"The communication between the host computer 1500 and the printer 2500 may be executed such that, when one-page printing information is to be transferred from the host computer 1500 to the printer 2500, the **host computer sends first the printing information except for any image data to the printer 2500**, so as to start the development of the printing information into the intermediate code memory 501. Then, an inquiry command requesting information about the size of the vacant area left in the intermediate code memory 501 **after the execution is transmitted from the host computer 1500 to the printer 2500**."* column 26, lines 12-22).

Regarding claim 4; Ueda '764 discloses where the storage unit has a capacity only sufficient to store one page of the image data, and each time the image processing unit completes image processing for one page of the image data stored in the storage unit, the second data acquiring unit acquires from the external apparatus another one page of the image data to be subjected to the image processing next ("...*first conversion means for converting page-basis printing information received from the information processing apparatus into predetermined intermediate code information, the conversion being executed on a predetermined band basis; first storage means for storing, in a first storage area of a memory resource, the intermediate code information obtained through conversion performed by the first conversion mean...*" column 3, lines 38-44).

Regarding claim 5; Ueda '764 discloses a memory that stores information regarding progress of the image processing, wherein when executing the image processing using the image data acquired by the second data acquiring unit, the image processing unit refers to the information stored in the memory and executes the image processing for a part of the image data that has not been subjected to the image processing yet ("...*second memory control means operative after the preservation of the vacant area by the first memory control means and operative based on the result of the judgment performed by the first judging means, so as to cause the second conversion means to convert into image the intermediate code information of a band which does not contain image data from among the bands of intermediate code information stored in the first storage area, and to develop the image into the second storage area...*" column 3, lines 63-67 thru column 4, lines 1-4).

Regarding claim 6; Ueda '764 discloses where the information stored in the memory indicates pages of the image data that have already been subjected to the image processing ("...*first conversion means for converting page-basis printing information received from the information processing apparatus into predetermined intermediate code information, the conversion being executed on a predetermined band basis; first storage means for storing, in a first storage area of a memory resource, the intermediate code information obtained through conversion performed by the first conversion mean...*" column 3, lines 38-44).

Regarding claim 7; Kajita '706 discloses where the memory is a nonvolatile memory

(*"For these reasons, the volatile DRAM is used for the image memory requiring high speed and **non-volatile hard disk is used for storing the data obtained by image reading and those for printing**. However the image memory 9 may be composed of a high-speed **non-volatile memory** if such memory becomes available in the future."* column 10, lines 50-56).

Regarding claim 10; Kajita '706 discloses where the storage unit is a volatile memory

(*"For these reasons, **the volatile DRAM is used for the image memory** requiring high speed and non-volatile hard disk is used for storing the data obtained by image reading and those for printing. However the image memory 9 may be composed of a high-speed non-volatile memory if such memory becomes available in the future."* column 10, lines 50-56).

Regarding claim 11; Ueda '764 discloses where the judgment unit judges whether the image data is stored in the storage unit each time power is turned on and/or each time the image processing apparatus recovers from a power failure (*"...second memory control means operative after the preservation of the vacant area by the first memory control means and **operative based on the result of the judgment performed by the first judging means, so as to cause the second conversion means to convert into image the intermediate code information of a band which does not contain image data from among the bands of intermediate code information stored in the first storage area**, and to develop the image into the second storage area..."* column 3, lines 63-67 thru column 4, lines 1-4).

Regarding claim 12; Ueda '764 discloses a reception unit that receives image processing jobs each of which contains information specifying a start time at which an image processing job is to be subjected to the image processing (*"According to the first aspect of the present invention, there is provided a printing apparatus communicable with an information processing apparatus through a predetermined communication medium, comprising: **first conversion means for converting page-basis printing information received from the information processing apparatus into predetermined intermediate code information, the conversion being executed on a predetermined band basis**..."* column 3, lines 35-42);

and a start time judging unit that judges, each time power is turned on and/or each time the image processing apparatus recovers from a power failure, whether any of the image

processing jobs received by the reception unit has a start time that has already reached, wherein

if the judgment unit judges negatively, and if there is an image processing job that has been

judged by the start time judging unit as having a start time that has already reached, the second

data acquiring unit acquires image data for the image processing job from the external apparatus

earlier than image data for the remaining image processing jobs received by the reception unit

("*According to the first aspect of the present invention, **there is provided a printing apparatus communicable with an**

information processing apparatus through a predetermined communication medium, comprising: first conversion means for

converting page-basis printing information received from the information processing apparatus into predetermined

intermediate code information, the conversion being executed on a predetermined band basis; first storage means for storing,*

in a first storage area of a memory resource, the intermediate code information obtained through conversion performed by the

*first conversion means; **second conversion means for converting the intermediate code information into image data on a***

***predetermined band basis;** second storage means for storing, in a second storage area of the memory resource, a plurality of*

*bands of the image data obtained through conversion performed by the second conversion means; **first judging means for***

judging whether or not the intermediate code information corresponding to one page has been stored in the first storage area;

*and first memory control means operative **based on the result of judgment conducted by the first judging means** so as to cause*

the second conversion means to convert the intermediate code information stored in the first storage area on the predetermined

band basis into image and to develop the image in the second storage area, thereby forming a vacant area in the first storage

area. In accordance with the second aspect of the present invention, the printing apparatus of the first aspect further comprises:

*second memory control means operative **after the preservation of the vacant area by the first memory control means** and*

***operative based on the result of the judgment performed by the first judging means,** so as to cause the second conversion*

means to convert into image the intermediate code information of a band which does not contain image data from among the

bands of intermediate code information stored in the first storage area, and to develop the image into the second storage are..."

column 3, lines 35-67 thru column 4, lines 1-10).

     Regarding claim 13; Kajita '706 discloses where the image processing is an image

forming process ("*FIG. 3 is a block diagram of the copying apparatus 1 in the first embodiment of the present invention. In*

case the copying apparatus 1 is used as a local copying machine, the original placed on an unrepresented original table is

scanned with a scanner unit 12 to obtain electrical signals, which are transmitted through a selector 13, subjected to various

digital image processes in an image process unit 14 and subjected to image formation in a printer unit 15." column 4, lines 51-58).

Regarding claim 14; Kajita '706 discloses where the image processing is a fax transmission process (*"In the scanning process for reading an image to be transferred to a user on the LAN, there is at first detected the depression of a scanning key in the operation unit 112 **(different from the instruction for ordinary copying or for reading the original for facsimile transmission)** (step S101)."* column 18, lines 8-12).

Regarding claim 15; Kajita '706 discloses where the first data acquiring unit is a receiving unit that receives print data from an external terminal connected with the image processing apparatus via a network (*"FIG. 2 is a view showing the entire configuration of an image reading system constituting a first embodiment of the present invention. **A copying apparatus 1 is a composite machine provided,** in addition to the known function of **reading and printing the original image,** with a remote scanner function of transmitting the read image to the exterior and a printer function of printing the image received from the exterior. The copying apparatus 1 is connected with other computers with a network 3."* column 4, lines 10-18).

Regarding claim 17; Ueda '764 discloses an image processing method for use in an image processing apparatus that is operable to transmit and receive data to/from an external apparatus that has a storage apparatus, the image processing method comprising (See Fig. 1 where Fig. 1 shows an Printer 2500, Host Computer 1500 where each has an external memory used to store information.):

a first data acquiring step for acquiring image data to be subjected to image processing (*"...**data processing means for acquiring information concerning image data** development area size allocated in the memory resource of the printing apparatus..."* column 3, lines 40-45);

a storage step for storing the acquired image data in a storage unit (*"...**first storage means for storing, in a first storage area of a memory resource,** the intermediate code information obtained through conversion performed by the first conversion means..."* column 10, lines 51-54);

a judgment step for judging, prior to commencement of the image processing, whether

the image data is stored in the storage unit *("...first judging means for judging whether or not the intermediate*

code information corresponding to one page has been stored in the first storage area; and first memory control means

operative based on the result of judgment conducted by the first judging means so as to cause the second conversion means to

convert the intermediate code information stored in the first storage area on the predetermined band basis into image and to

develop the image in the second storage area ..." column 3, lines 51-60);

a second data acquiring step for acquiring the image data from the external apparatus if

the judgment unit judges negatively *("...second memory control means operative after the preservation of the*

vacant area by the first memory control means and operative based on the result of the judgment performed by the first

judging means, so as to cause the second conversion means to convert into image the intermediate code information of a band

which does not contain image data from among the bands of intermediate code information stored in the first storage area, and

to develop the image into the second storage area ..." column 3, lines 63-67 thru column 4, lines 1-4);

and an image processing step for executing the image processing using the image data

stored in the storage unit if the judgment unit judges positively, and executing the image

processing using the image data acquired by the second data acquiring unit if the judgment unit

judges negatively *("...first conversion means for converting page-basis printing information received from the*

information processing apparatus into predetermined intermediate code information, the conversion being executed on a

predetermined band basis; first storage means for storing, in a first storage area of a memory resource, the intermediate code

information obtained through conversion performed by the first conversion means; second conversion means for converting the

intermediate code information into image data on a predetermined band basis; second storage means for storing, in a second

storage area of the memory resource, a plurality of bands of the image data obtained through conversion performed by the

second conversion means; first judging means for judging whether or not the intermediate code information corresponding to

one page has been stored in the first storage area; and first memory control means operative based on the result of judgment

conducted by the first judging means so as to cause the second conversion means to convert the intermediate code information

stored in the first storage area on the predetermined band basis into image and to develop the image in the second storage area,

thereby forming a vacant area in the first storage area." column 3, lines 38-59).

Ueda '764 does not expressly disclose a transmission step for transmitting the acquired image data to the external apparatus so that the transmitted image data is stored in the storage apparatus while the storage unit stores the acquired image data.

Kajita '706 a transmission step for transmitting the acquired image data to the external apparatus so that the transmitted image data is stored in the storage apparatus while the storage unit stores the acquired image data (*"In case the copying apparatus 1 is used as a remote scanner, the original placed on the unrepresented original table is scanned with the scanner unit 12 to obtain electrical signals, which are **transmitted through the selector 13, and subjected to various digital image processes** in the image process unit 14, **and thus processed image data 16 are stored as a raster image in the image memory 9. Then the image data, read from the image memory 9, are supplied through the CPU 8 and the external communication** circuit 4 and transmitted for example to the computer 2A under the control of the control unit 5."* column 5, lines 1-11).

Ueda '764 and Kajita '706 are combinable because they are from same field of endeavor of an image processing apparatus (*"The present invention relates to an image reading device for reading an image and sending image data to an externally connected host computer or the like, and an image processing method utilizing such device"* Kajita '706 at column 1, lines 8-11).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image processing apparatus as taught by Ueda '764 by adding a transmission step for transmitting the acquired image data to the external apparatus so that the transmitted image data is stored in the storage apparatus while the storage unit stores the acquired image data as taught by Kajita '706. The motivation for doing so would have been because it advantageous to provide an image reading device with improved operation characteristics (*"...to provide an image reading device with improved operation characteristics."* Kajita '706 at column 2, lines 25-27). Therefore, it would have been obvious to combine Ueda '764 with Kajita '706 to obtain the invention as specified in claim 17.

Regarding claim 18; Ueda '764 discloses a program that is run in an image processing apparatus that is operable to transmit and receive data to/from an external apparatus that has a storage apparatus, the program causing the image processing apparatus to execute [See Fig. 1 where Fig. 1 shows an Printer 2500, Host Computer 1500 where each has an external memory used to store information. ("*The invention also is concerned with a storage medium storing a computer-readable program implementing such a data processing method.*" column 1, lines 24-26)]:

a first data acquiring step for acquiring image data to be subjected to image processing ("...**data processing means for acquiring information concerning image data** *development area size allocated in the memory resource of the printing apparatus...*" column 3, lines 40-45);

a storage step for storing the acquired image data in a storage unit ("...**first storage means for storing, in a first storage area of a memory resource**, *the intermediate code information obtained through conversion performed by the first conversion means...*" column 10, lines 51-54);

a judgment step for judging, prior to commencement of the image processing, whether the image data is stored in the storage unit ("...**first judging means for judging whether or not the intermediate code information corresponding to one page has been stored in the first storage area**; *and first memory control means operative based on the* **result of judgment conducted by the first judging means** *so as to cause the second conversion means to convert the intermediate code information stored in the first storage area on the predetermined band basis into image and to develop the image in the second storage area...*" column 3, lines 51-60);

a second data acquiring step for acquiring the image data from the external apparatus if the judgment unit judges negatively ("...**second memory control means operative after the preservation of the vacant area by the first memory control means** *and operative* **based on the result of the judgment performed by the first judging means, so as to cause the second conversion means to convert into image the intermediate code information** *of a band which does not contain image data from among the bands of intermediate code information stored in the first storage area, and to develop the image into the second storage area...*" column 3, lines 63-67 thru column 4, lines 1-4);

an image processing step for executing the image processing using the image data stored

in the storage unit if the judgment unit judges positively, and executing the image processing

using the image data acquired by the second data acquiring unit if the judgment unit judges

negatively ("...*first conversion means for converting page-basis printing information received from the information*

processing apparatus into predetermined intermediate code information, *the conversion being executed on a predetermined*

band basis; first storage means for storing, in a first storage area of a memory resource, the intermediate code information

obtained through conversion performed by the first conversion means; second conversion means for converting the intermediate

code information into image data on a predetermined band basis; second storage means for storing, in a second storage area of

the memory resource, a plurality of bands of the image data obtained through conversion performed by the second conversion

*means; **first judging means for judging whether or not the intermediate code information corresponding to one page has been***

stored in the first storage area;** and first memory control means operative **based on the result of judgment conducted by the

first judging means so as to cause the second conversion means to convert the intermediate code information stored in the

***first storage area on the predetermined band basis** into image and to develop the image in the second storage area, thereby*

forming a vacant area in the first storage area." column 3, lines 38-59).

Ueda '764 does not expressly disclose a transmission step for transmitting the acquired

image data to the external apparatus so that the transmitted image data is stored in the storage

apparatus while the storage unit stores the acquired image data.

Kajita '706 discloses a transmission step for transmitting the acquired image data to the

external apparatus so that the transmitted image data is stored in the storage apparatus while the

storage unit stores the acquired image data ("*In case the copying apparatus 1 is used as a remote scanner, the*

original placed on the unrepresented original table is scanned with the scanner unit 12 to obtain electrical signals, which are

*transmitted through the selector 13, and subjected to various digital image processes in the image process unit 14, **and thus***

processed image data 16 are stored as a raster image in the image memory 9. Then the image data, read from the image

***memory 9, are supplied through the CPU 8 and the external communication** circuit 4 and transmitted for example to the*

computer 2A under the control of the control unit 5." column 5, lines 1-11).

Ueda '764 and Kajita '706 are combinable because they are from same field of endeavor

of an image processing apparatus (*"The present invention relates to an image reading device for reading an image*

and sending image data to an externally connected host computer or the like, and an image processing method utilizing such

device" Kajita '706 at column 1, lines 8-11).

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to modify the image processing apparatus as taught by Ueda '764 by adding a

transmission step for transmitting the acquired image data to the external apparatus so that the

transmitted image data is stored in the storage apparatus while the storage unit stores the

acquired image data as taught by Kajita '706. The motivation for doing so would have been

because it advantageous to provide an image reading device with improved operation

characteristics (*"...to provide an image reading device with improved operation characteristics."* Kajita '706 at column 2,

lines 25-27). Therefore, it would have been obvious to combine Ueda '764 with Kajita '706 to

obtain the invention as specified in claim 18.

Regarding claim 19; Ueda '764 discloses wherein the first data acquiring unit is an

image reading unit which scans documents (See Figure 13, Item #'s 1504, 1505 & 1506 where Numeral 1505

denotes a rotary polygon mirror which deflects the laser light 1504 to the left and right, thereby effecting scanning exposure of

the surface of an electrostatic drum 1506.).

Regarding claim 20; Ueda '764 discloses wherein the storage unit stores image data

expanded based on the image data acquired by the first data acquiring unit (*"...first judging means for*

judging whether or not the intermediate code information corresponding to one page has been stored in the first storage area;

and first memory control means operative based on the result of judgment conducted by the first judging means so as to cause

the second conversion means to convert the intermediate code information stored in the first storage area on the predetermined

band basis into image and to develop the image in the second storage area..." column 3, lines 51-60);

6.   **Claims 8 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ueda '764 and Kajita '706 as applied to claim 1 above, and further in view of Iwazaki (US 6,687,742 B1 hereinafter, Iwazaki '742).

    Regarding claim 8; Ueda '764 and Kajita '706 does not expressly disclose where the external apparatus functions as a mail server, the transmission unit transmits to the external apparatus an electronic mail addressed to the image processing apparatus and containing the acquired image data, and the second data acquiring unit, if the judgment unit judges negatively, acquires the electronic mail from the external apparatus and extracts the image data from the acquired electronic mail.

    Iwazaki '742 discloses where the external apparatus functions as a mail server, the transmission unit transmits to the external apparatus an electronic mail addressed to the image processing apparatus and containing the acquired image data, and the second data acquiring unit, if the judgment unit judges negatively, acquires the electronic mail from the external apparatus and extracts the image data from the acquired electronic mail (*"The Internet facsimile 3 and the personal computer 4 are each designed to* **receive an e-mail by acquiring the e-mail that has been delivered to the local mail box in the e-mail server 5,** *whereas the Internet facsimiles 6 to 8 and the personal computer are each* **designed to receive an e-mail by acquiring the e-mail that has been delivered to the local mail box in the e-mail server 10.** *Note that the e-mail servers may be set to directly transfer an e-mail to an Internet facsimile and personal computer."* column 5, lines 18-26).

    Ueda '764 and Iwazaki '742 are combinable because they are from same field of endeavor of an image processing apparatus (*"...it is an object of the present invention to provide a communication control method for an electronic mail system, which, in a case of transmitting an image in the form of an e-mail to a transmission destination whose capability is unknown..."* Iwazaki '742 at column 3, lines 13-17).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image processing apparatus as taught by Ueda '764 by adding where the external apparatus functions as a mail server, the transmission unit transmits to the external apparatus an electronic mail addressed to the image processing apparatus and containing the acquired image data, and the second data acquiring unit, if the judgment unit judges negatively, acquires the electronic mail from the external apparatus and extracts the image data from the acquired electronic mail as taught by Iwazaki '742. The motivation for doing so would have been because it advantageous to provide a communication control method for an electronic mail system, (*"...to provide a communication control method for an electronic mail system..."* Iwazaki '742 at column 3, lines 13-15). Therefore, it would have been obvious to combine Ueda '764 with Iwazaki '742 to obtain the invention as specified in claim 1.

Regarding claim 9; Iwazaki '742 discloses where the transmission unit converts the acquired image data into Tag Image File Format, and transmits to the external apparatus an electronic mail addressed to the image processing apparatus and containing the image data having been converted into Tag Image File Format, as an attached file (*"RFC 2305 fixes conditions for image transmission (the number of horizontal pixels: 1728 pixels, resolution: 200.times.100 dpi or 200.times.200 dpi and coding system: MH) and defines that an image is converted to a file of the TIFF (Tagged Image File Format) format, attaches this file to an e-mail message according to the MIME (Multipurpose Internet Mail Extensions), the standard e-mail format, and this e-mail message is then transmitted to a designated e-mail address."* column 1, lines 28-36).

7.   **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination

of Ueda '764 and Kajita '706 as applied to claim 1 above, and further in view of Ogura '136 et

al. (US 6,961,136 B2 hereinafter, Ogura '136).

        Regarding claim 16; Ueda '764 as modified does not expressly disclose where the first

data acquiring unit is a fax receiving unit that receives fax data from an external fax apparatus.

        Ogura '136 discloses where the first data acquiring unit is a fax receiving unit that

receives fax data from an external fax apparatus (*"An image -forming-device management system enables each

image -forming device installed in a large number of customer offices and the like to connect to a central management device

installed in a service center by using a data communication device and a communication line such as a public line or an

exclusive line.* **This image -forming device is defined as a copy machine, a printer, a facsimile device, or the like.** *Additionally,

the central management device* **carries out remote management of the image -forming device through the communication line

and the data communication device (a line adaptor). Such an image -forming-device management system is generally

known.***" column 1, lines 16-27).

        Ueda '764 and Ogura '136 are combinable because they are from same field of endeavor

of an image processing apparatus (*"...The present invention relates to a data communication device, an image-

forming device such as a copy machine or a facsimile composite device, an image-forming-device management system composed

of the data communication device and the image-forming device, and a method of controlling power supply in the image-

forming-device management system."* Ogura '136 at column 1, lines 8-14).

        At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to modify the image processing apparatus as taught by Ueda '764 by adding where the

first data acquiring unit is a fax receiving unit that receives fax data from an external fax

apparatus as taught by Ogura '136. The motivation for doing so would have been because it

advantageous to reduce unnecessary electricity consumed by the *data* communication device or

the image-forming device (*"...the data communication device or the data -forming device can carry out data*

transmission regularly, reducing unnecessary electricity consumed by the data communication device or the image-forming

device." Ogura '136 at column 7, lines 52-55). Therefore, it would have been obvious to combine Ueda

'764 with Ogura '136 to obtain the invention as specified in claim 1.

Examiner Notes

8.   The Examiner cites particular columns and line numbers in the references as applied to

the claims above for the convenience of the applicant. Although the specified citations are

representative of the teachings in the art and are applied to the specific limitations within the

individual claim, other passages and figures may apply as well. It is respectfully requested that,

in preparing responses, the applicant fully considers the references in its entirety as potentially

teaching all or part of the claimed invention, as well as the context of the passage as taught by

the prior art or as disclosed by the Examiner.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581.

The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

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like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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